How Ford Motor Company is Contributing to Sustainable Transportation

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Introduction

Sustainable transportation is one of the most important concepts when it comes to creating a sustainable future. Sustainability is "to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations." according to the United States Environmental Protection Agency. Currently we are experiencing the drastic affects of climate change. Climate change is always occurring, but the actions of humans has sped up those natural processes. Climate change is creating dangerous situation such as sea level rise, stronger storms, and even wildfires. We need to take accountability for our actions and start to live more sustainable lifestyles. One way of doing this is by switching to a more sustainable mode of transportation. The average passenger vehicle emits about 4.6 metric tons of carbon dioxide into the atmosphere every year. That is a lot of carbon dioxide going into our atmosphere, which in turn speeds up climate change. Motor companies all over the world have finally started to recognize this issue and have began to put out lines of hybrid and electric vehicles. We all have most likely heard of the company Tesla who is a forerunner for electric vehicles, but I will be exploring how a more common motor company has began to transition its vehicles and how that is contributing to sustainable transportation.

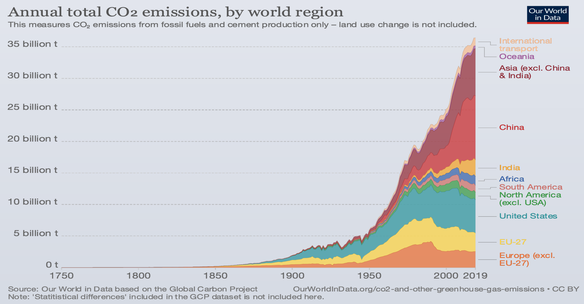


Fig. 1: Carbon dioxide emissions have drastically increased over a short amount of time, indicating that we need to transition to sustainable transportation as soon as possible.

Ford's First Endeavor Into Sustainable Transportation

Ford's journey in the electric vehicle market actually began way back in the early 1910's. However, the concept never really got off the ground. Fast forward to the late 1990's. California had reaffirmed it's zero-emissions mandates. For Ford this meant they had to start producing and sell at least several thousand electric cars by 2003. The first car Ford put out was the Think City Microcar. This car was small and could only seat two people. It "offered about 53 miles of range and a top speed of 55 miles per hour." according to Inside Electric Vehicles. They could only find about 1000 customers to purchase this car. By 2002 Ford had parted ways with Think, the company originally behind this microcar.

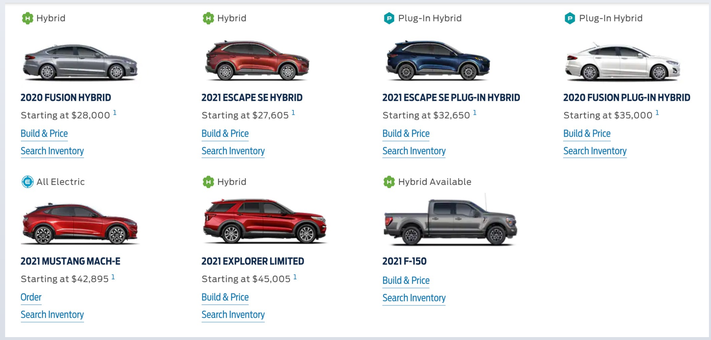
During this same time period came the all-electric Ford pickup. Built from 1998-2002, the Ford Ranger EV was compact and could hold 2-3 passengers. However, for the times this vehicle was very expensive. This vehicle originally sold for $52,720, which in 2021 would be about $85,000. This is very expensive for a small pickup truck. "The 26 kilowatt-hour nickel-based battery packs provided about 80 miles of range." says Inside Electric Vehicles.

F. 2: The Ford Ranger EV

F. 3: The Think City Microcar

Fords Current Electric Vehicle Lineup

Currently Ford offers seven different fully electric and hybrid vehicles in its lineup. The 2020 Fusion Plug-in Hybrid gets about 42 combined MPG and about 103 combined MPGe. It utilizes a lithium-ion battery. The 2021 Mustang Mach-E also utilizes a lithium-ion battery. This is one of Ford's newest inductions into the electric vehicle lineup. On a full charge this vehicle has 230 EPA estimated miles of range. The 2021 Explorer Limited has an EPA Estimated MPG for city at 21 and for highway for 28. Lastly, the 2021 F-150 is the only truck that Ford offers as a hybrid. This truck utilizes the new 3.5L Powerboost Full Hybrid V6 Engine.



F. 4: The current Ford Electric Vehicle lineup

Down the Road

The possibilities are endless as technology advances and the want and need for electric vehicles rise. Ford plans to continue developing more hybrid and fully electric vehicle options. According to the Ford website, "Ford is investing $11 billion to introduce 16 fully electric vehicles within a global portfolio of 40 electrified vehicles through 2022.". There has been talk of different concept vehicles that are all electric, but for now it is all hear-say. However, also on the Ford website, there is one fully electric vehicle they plan on releasing by the end of 2021. That is the 2022 E-Transit. This is the revamped version of the best-selling commercial van in the United States. The E-Transit is designed with 126 miles of anticipated range. This vehicle utilizes a lithium-ion battery and provides 2.4kW of power. This is for the use of tools and such. This vehicle will lead the way for other commercial work vehicles to follow.

F. 5: The 2022 Ford E-Transit

Conclusion

Ford is taking active steps to ensure it is a leader in the electric vehicles market in the coming years. Not only does this company show they are trying to make a difference with the vehicles they produce, but they also show they are making a difference in the company itself. Ford Motor Company has been recognized as a Global Sustainability Leader in Water and Climate Change Efforts. They were awarded this by the CDP, which is a "not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.". Ford works hard to manage their usage of water responsibly. The Ford website says it "has reduced operational water use by 62.5 percent, saving 10.4 billion gallons of water.". When it comes to carbon dioxide reeducations the company has also done well. Once again, the Ford website says, "in 2017 Ford achieved its goal to reduce the company's global carbon dioxide emissions from manufacturing operations by 30 percent per vehicle produced by 2025, eight years early.". Overall Ford is on its way to helping the transportation sector become much more sustainable.

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